Rauscher, Leslie

From: Wiegand, Danny
Sent: Thursday, January 23, 2020 1:17 PM
To: Rauscher, Leslie
Subject: RE: Pontchartrain Documents
Attachments: Notice of Award MX00D18514 mod 3.pdf; Notice of Award for MX00D68218-0 (LPBF).pdf

Thanks, Leslie. Great talking to you too!

Here are the latest NOAs for two projects. Monitoring program (18514) includes a plus up last year of $127K – total since 2014 original award is $648,192. No match on St Tammany project (68218).

From: Rauscher, Leslie <Rauscher.Leslie@epa.gov>
Sent: Thursday, January 23, 2020 9:13 AM
To: Wiegand, Danny <wiegand.danny@epa.gov>
Subject: Pontchartrain Documents

Hi Danny,

Good talking with you yesterday. As promised, here are the documents that we talked about and a link to the St. Tammany award that LDEQ gave them last year for their work in the Bayou Liberty area, which I think is mostly all in my work scope. I also have a couple of follow-up questions for you. What is the funding level (fed and match) for the Pontchartrain Basin WQ Monitoring Program Workplan? For the St. Tammany wastewater project, is LPBF putting in match?

https://deq.louisiana.gov/assets/docs/About_LDEQ/ELP_Forms/ELP_Program_2019.pdf

Thanks,
Leslie

Rauscher, Leslie

From: Wiegand, Danny
Sent: Thursday, August 1, 2019 11:56 AM
To: Rauscher, Leslie
Cc: Houge, Rachel; Boone, Tripp
Subject: LPBF cooperatives
Attachments: GOMP 2017 Extension Workplan_rev_19Sep18.pdf; LPBF NARRATIVE PROPOSAL.pdf

Leslie, per our con call, see attached. CC-ing Rachel who can provide info on her new (tentative award) w/ LPBF. Tripp Boone is now the PO for two St. Tammany projects so cc-ing him too.

Tripp, Leslie is preparing a 1-pager for Claudia Hosch on all-things Pontchartrain Basin so I'm forwarding my LPBF workplans.

Leslie, let us know if you need anything else or have any questions.

Danny Wiegand, PE
US Environmental Protection Agency
Gulf of Mexico Program
2510 14th Street, Ste 1212
Gulfport, MS 39501
p: 228-679-5897
c: 228-243-5499
e: wiegand.danny@epa.gov

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

GRANT NUMBER (FAIN):	**00D68218**
MODIFICATION NUMBER:	**0**
PROGRAM CODE:	**MX**
DATE OF AWARD	03/12/2018
TYPE OF ACTION	New
MAILING DATE	03/19/2018
PAYMENT METHOD:	ACH
ACH#	60634

RECIPIENT TYPE:
Not for Profit

RECIPIENT:
Lake Pontchartrain Basin Foundation
2045 Lakeshore Drive CERM Bldg. 339
New Orleans, LA 70122
EIN: 72-1152784

Send Payment Request to:
Las Vegas Finance Center

PAYEE:
Lake Pontchartrain Basin Foundation
2045 Lakeshore Drive CERM Bldg. 339
New Orleans, LA 70122

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Dr. Brady Kenyon Skaggs 2045 Lakeshore Drive CERM Bldg. 339 New Orleans, LA 70122 **E-Mail:** brady@saveourlake.org **Phone:** 504-836-2235	Danny Wiegand 2510 14th Street Gulfport, MS 39501 **E-Mail:** wiegand.danny@epa.gov **Phone:** 228-679-5897	Margaret Crowe Grants and Audit Management Section **E-Mail:** crowe.margaret@epa.gov **Phone:** 404-562-8687

PROJECT TITLE AND DESCRIPTION
Gulf of Mexico Program

This action provides funding in the amount of $412,733 for Lake Pontchartrain Basin Foundation to use an interdisciplinary approach to improve surface waters in residential communities utilizing aerated treatment units for wastewater management. The project will assess water quality, waterborne pathogens, and vectors of human diseases and also will correlate these parameters, intervene to improve conditions, and educate area residents and community leaders.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
03/01/2018 - 02/28/2021	03/01/2018 - 02/28/2021	$412,733.00	$412,733.00

NOTICE OF AWARD

Based on your Application dated 08/03/2017 including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA) hereby awards $412,733. EPA agrees to cost-share 100.00% of all approved budget period costs incurred, up to and not exceeding total federal funding of $412,733. Recipient's signature is not required on this agreement. The recipient demonstrates its commitment to carry out this award by either: 1) drawing down funds within 21 days after the EPA award or amendment mailing date; or 2) not filing a notice of disagreement with the award terms and conditions within 21 days after the EPA award or amendment mailing date. If the recipient disagrees with the terms and conditions specified in this award, the authorized representative of the recipient must furnish a notice of disagreement to the EPA Award Official within 21 days after the EPA award or amendment mailing date. In case of disagreement, and until the disagreement is resolved, the recipient should not draw down on the funds provided by this award/amendment, and any costs incurred by the recipient are at its own risk. This agreement is subject to applicable EPA regulatory and statutory provisions, all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
61 Forsyth Street Atlanta, GA 30303-8960	U.S. EPA, Region 4 Gulf of Mexico Program 2510 14th Street Gulfport, MS 39501

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

Digital signature applied by EPA Award Official Keva R. Lloyd - Grants Management Officer	**DATE** 03/12/2018

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 412,733	$ 412,733
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$	$ 0
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$	$ 0
Allowable Project Cost	$ 0	$ 412,733	$ 412,733

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.475 - Gulf of Mexico Program	Clean Water Act: Sec. 104(b)(3)	2 CFR 200 2 CFR 1500 and 40 CFR 33

Fiscal

Site Name	Req No	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	1804M8G016	1718	B	04M	202B65	4183	-	-	412,733
									412,733

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$97,976
2. Fringe Benefits	$18,172
3. Travel	$3,234
4. Equipment	$0
5. Supplies	$11,294
6. Contractual	$159,917
7. Construction	$0
8. Other	$102,545
9. Total Direct Charges	$393,138
10. Indirect Costs: 20.00% Base Personnel	$19,595
11. Total (Share: Recipient 0.00 % Federal 100.00 %.)	$412,733
12. Total Approved Assistance Amount	$412,733
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$412,733
15. Total EPA Amount Awarded To Date	$412,733

Administrative Conditions

GENERAL TERMS AND CONDITIONS

The recipient agrees to comply with the current EPA general terms and conditions available at:
https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-2-2017-or-later
https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-3-2016-or-later These terms and conditions are in addition to the assurances and certifications made as a part of the award and the terms, conditions, or restrictions cited throughout the award.

The EPA repository for the general terms and conditions by year can be found at http://www.epa.gov/grants/grant-terms-and-conditions.

1. ANNUAL FFR (Interim) pursuant to 2 CFR 200.327

Pursuant to 2 CFR 200.327, EPA recipients shall submit an interim annual Federal Financial Report (FFR, SF-425) to EPA no later than 90 calendar days following the anniversary of the award date. The form is available on the internet at: http://www2.epa.gov/financial/forms.

The following reporting period end dates shall be used for interim annual reports: 3/31, 6/30, 9/30, or 12/31.

At the end of the project, the recipient must submit a final FFR to EPA no later than 90 calendar days after the end of the project period. The form is available on the internet at: http://www2.epa.gov/financial/forms. All FFRs must be submitted to the Las Vegas Finance Center (LVFC) via email LVFC-grants@epa.gov.

2. UTILIZATION OF SMALL, MINORITY AND WOMEN'S BUSINESS ENTERPRISES

GENERAL COMPLIANCE, 40 CFR, Part 33

The recipient agrees to comply with the requirements of EPA's Disadvantaged Business Enterprise (DBE) Program for procurement activities under assistance agreements, contained in 40 CFR, Part 33.

MBE/WBE REPORTING, 40 CFR, Part 33, Subpart E

MBE/WBE reporting is required in annual reports. Reporting is required for assistance agreements where there are funds budgeted for procuring construction, equipment, services and supplies, including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category that exceed the threshold amount of $150,000, including amendments and/or modifications.

Based on EPA's review of the planned budget, this award meets the conditions above and is subject to the Disadvantaged Business Enterprise (DBE) Program reporting requirements. However, if recipient believes this award does not meet these conditions, it must provide [insert Regional or Headquarters point of contact] with a justification and budget detail within 21 days of the award date clearly demonstrating that, based on the planned budget, this award is not subject to the DBE reporting requirements.

The recipient agrees to complete and submit a "MBE/WBE Utilization Under Federal Grants, Cooperative Agreements and Interagency Agreements" report (EPA Form 5700-52A) on an annual basis. All procurement actions are reportable, not just that portion which exceeds $150,000.

When completing the annual report, recipients are instructed to check the box titled "annual" in section 1B of the form. For the final report, recipients are instructed to check the box indicated for the "last report" of the project in section 1B of the form. Annual reports are due by October 30th of each year. Final reports are due by October 30th or 90 days after the end of the project period, whichever comes first.

The reporting requirement is based on total procurements. Recipients with expended and/or budgeted funds for procurement are required to report annually whether the planned procurements take place during the reporting period or not. If no budgeted procurements take place during the reporting period, the recipient should check the box in section 5B when completing the form.

MBE/WBE reports should be sent to:

MBE/WBE reports should be sent to:
R4epagrantsmbewbereporting@epa.gov
and
cc: crowe.margaret@epa.gov
Attn: Margaret Crowe

The current EPA Form 5700-52A can be found at the EPA Office of Small Business Program's Home Page at http://www.epa.gov/osbp/dbe_reporting.htm

This provision represents an approved deviation from the MBE/WBE reporting requirements as described in 40 CFR, Part 33, Section 33.502; however, the other requirements outlined in 40 CFR Part 33 remain in effect, including the Good Faith Effort requirements as described in 40 CFR Part 33 Subpart C, and Fair Share Objectives negotiation as described in 40 CFR Part 33 Subpart D and explained below.

FAIR SHARE OBJECTIVES, 40 CFR, Part 33, Subpart D
A recipient must negotiate with the appropriate EPA award official, or his/her designee, fair share objectives for MBE and WBE participation in procurement under the financial assistance agreements.

In accordance with 40 CFR, Section 33.411 some recipients may be exempt from the fair share objectives requirements as described in 40 CFR, Part 33, Subpart D. Recipients should work with their DBE coordinator, if they think their organization may qualify for an exemption.

Accepting the Fair Share Objectives/Goals of Another Recipient
The dollar amount of this assistance agreement, or the total dollar amount of all of the recipient's financial assistance agreements in the current federal fiscal year from EPA is $250,000, or more. The **Louisiana Department of Environmental Quality** has negotiated the following, applicable MBE/WBE fair share objectives/goals with EPA as follows:

	MBE	WBE
Construction	23.40%	11.90%
Supplies	1.40%	1.40%
Services	17.10%	12.40%
Goods/Equipment	1.50%	1.40%

By signing this financial assistance agreement, the recipient is accepting the fair share objectives/goals stated above and attests to the fact that it is purchasing the same or similar construction, supplies, services and equipment, in the same or similar relevant geographic buying market as **Louisiana Department of Environmental Quality.**

Negotiating Fair Share Objectives/Goals, 40 CFR, Section 33.404
The recipient has the option to negotiate its own MBE/WBE fair share objectives/goals. If the recipient wishes to negotiate its own MBE/WBE fair share objectives/goals, the recipient agrees to submit proposed MBE/WBE objectives/goals based on an availability analysis, or disparity study, of qualified MBEs and WBEs in their relevant geographic buying market for construction, services, supplies and equipment.

The submission of proposed fair share goals with the supporting analysis or disparity study means that the recipient is **not** accepting the fair share objectives/goals of another recipient. The recipient agrees to submit proposed fair share objectives/goals, together with the supporting availability analysis or disparity study, to the Regional MBE/WBE Coordinator within 120 days of its acceptance of the financial assistance award. EPA will respond to the proposed fair share objective/goals within 30 days of receiving the submission. If proposed fair share objective/goals are not received within the 120 day time frame, the recipient may not expend its EPA funds for procurements until the proposed fair share objective/goals are submitted.

SIX GOOD FAITH EFFORTS, 40 CFR, Part 33, Subpart C
Pursuant to 40 CFR, Section 33.301, the recipient agrees to make the following good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, and to require that sub-recipients, loan recipients, and prime contractors also comply. Records documenting compliance with

the six good faith efforts shall be retained:

(a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

(b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

(c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

(d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

(e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

(f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

CONTRACT ADMINISTRATION PROVISIONS, 40 CFR, Section 33.302
The recipient agrees to comply with the contract administration provisions of 40 CFR, Section 33.302.

BIDDERS LIST, 40 CFR, Section 33.501(b) and (c)
Recipients of a Continuing Environmental Program Grant or other annual reporting grant, agree to create and maintain a bidders list. Recipients of an EPA financial assistance agreement to capitalize a revolving loan fund also agree to require entities receiving identified loans to create and maintain a bidders list if the recipient of the loan is subject to, or chooses to follow, competitive bidding requirements. Please see 40 CFR, Section 33.501 (b) and (c) for specific requirements and exemptions.

3. <u>Indirect Cost Rate for Non-Profit Organizations</u>

a. If the recipient does not have a previously established indirect cost rate, and is not approved for use of a 10% flat IDC rate, it agrees to prepare and submit its indirect cost rate proposal in accordance with the appropriate federal cost principles, 2 CFR 230,

"Cost Principles for Non-Profit Organizations".

The recipient must send its proposal to its cognizant federal agency within ninety (90) days from the effective date of the award of this assistance agreement. The recipient must carbon copy this EPA office with its proposal.

If EPA is the cognizant federal agency of the non-profit organization, the recipient must send its indirect cost rate proposal within ninety (90) days from the effective date of the award to:

Via Email: OGD_ IndirectCost@EPA.GOV

Via Regular Mail: National Policy, Training and Compliance Division
Office of Grants and Debarment
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, MC 3903R
Washington, DC 20460
Attn: OGD Indirect Cost Rate Control Desk

Via Fedex/UPS: National Policy, Training and Compliance Division
Office of Grants and Debarment
U.S. Environmental Protection Agency
1300 Pennsylvania Avenue, NW, 5th Floor
Washington, DC 20004
Attn: OGD Indirect Cost Rate Control Desk

The non-profit recipient agrees to follow the enclosed "Sample Indirect Cost Proposal Format for Nonprofit Organizations." The sample proposal may also be accessed at: http://www2.epa.gov/grants/sample-indirect-cost-proposal-format-nonprofit-organizations. Another resource is the "EPA Guide on How to Prepare an Indirect Cost Rate Proposal for a Non-Profit Organization," and may be found at: http://www2.epa.gov/grants/how-prepare-indirect-cost-rate-proposal-non-profit-organization

b. Recipients may not draw down indirect costs unless they: i) have a current rate agreement; ii) have been approved for a flat 10% rate; or iii) have submitted, within 90 days of award, an indirect cost rate proposal to their cognizant federal agency for review and approval and a final rate has been determined by the cognizant agency.

c. Recipients are responsible for maintaining an approved indirect cost rate. Recipients with differences between their provisional rates and final rates are not entitled to more than the amount identified in the award for indirect costs without EPA approval.

Programmatic Conditions

A. This is a cooperative agreement because the activities will require substantial federal involvement in the form of programmatic oversight and technical assistance including reviewing and commenting on agreement activities and products.

B. Semi-annual Progress Reports (see Template below) must be submitted to the EPA Project Officer within 30 days after each reporting period ends. Please reference the EPA Cooperative Agreement Number on all reports and correspondence.

Progress Report Template
Project Title:
Cooperative Agreement Number:
Dates covered by this report:
The items listed below should be completely addressed:
1. Describe the work and measurable outcomes accomplished. Provide specific details with regard to fieldwork scheduled and completed (including photographs, where possible), meetings or conferences conducted or attended.
2. Were any problems encountered? If yes, please describe corrective actions taken.
3. Is the project work on schedule?
4. Document any changes in project management (personnel) and provide the updated contact information.
5. Outline the work projected for the next reporting period.
6. Subaward Reporting: Report on subaward monitoring activities under 2 CFR 200.331 (d) that were not covered in items 1-5 above. This includes: Summaries of results of reviews of financial and programmatic reports; Summaries of findings from site visits and/or desk reviews to ensure effective subrecipient performance; Environmental results the subrecipient achieved; Summaries of audit findings and related pass-through entity management decisions; Actions the pass-through entity has taken to correct deficiencies such as those specified at 2 CFR 200.331(e), 2 CFR 200.207 and the 2 CFR Part 200.338 Remedies for Noncompliance.

C. Measurable Outputs
The recipient must report to the EPA Project Officer the outputs achieved for the previous six months as well as cumulative outputs achieved over the life of the project by March 31st and September 30th of each year. Outputs are project-specific and must include:

1. number of water bodies and/or segments with 5% improvement in a water quality parameter(s); and
2. number of individuals reached through environmental education/outreach methods.

D. An electronic copy of the Final Performance Report must be submitted to the EPA Project Officer within 90 days after the project end date.

E. Competency of Organizations Generating Environmental Measurement Data

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance Agreements, Recipient agrees, by entering into this agreement, that it has demonstrated competency prior to award, or alternatively, where a pre-award demonstration of competency is not practicable, Recipient agrees to demonstrate competency prior to carrying out any activities under the award involving the generation or use of environmental data. Recipient shall maintain competency for the duration of the project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at http://www.epa.gov/fem/lab_comp.htm or a copy may also be requested by contacting the EPA project officer for this award.

F. Prior to environmental data collection or data compilation, a copy of the EPA approved Quality Assurance Project Plan (QAPP) must be submitted to the EPA project officer. A copy of the EPA approved Quality Management Plan (QMP) must also be submitted to the EPA project officer. Environmental data generated under this agreement must be submitted to the EPA project officer, if requested.

G. All geospatial data created must be consistent with Federal Geographic Data Committee (FGDC) endorsed standards. Information on these standards may be found at www.fgdc.gov.

H. Cybersecurity Condition
(a) The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State or Tribal law cybersecurity requirements. (b) (1) EPA must ensure that any connections between the recipient's network or information system and EPA networks used by the recipient to transfer data under this agreement, are secure. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition. If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or EPA's Central Data Exchange, the recipient agrees to contact the EPA Project Officer (PO) no later than 90 days after the date of this award and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by EPA's regulatory programs for the submission of reporting and/or compliance data. (2) The recipient agrees that any subawards it makes under this agreement will require the subrecipient to comply with the requirements in (b)(1) if the subrecipient's network or information system is connected to EPA networks to transfer data to the Agency using systems other than the Environmental Information Exchange Network or EPA's Central Data Exchange. The recipient will be in compliance with this condition by including this requirement in subaward agreements; and during subrecipient monitoring deemed necessary by the recipient under 2 CFR 200.331(d), by inquiring whether the subrecipient has contacted the EPA Project Officer. Nothing in this condition requires the

recipient to contact the EPA Project Officer on behalf of a subrecipient or to be involved in the negotiation of an Interconnection Service Agreement between the subrecipient and EPA.

ENVIRONMENTAL PROTECTION AGENCY (EPA)
FY 2017 Gulf of Mexico Program Cooperative Agreements
EPA-GM-2017-01

Project Title: AN INTEGRATED, WASTEWATER-CENTRIC APPROACH TO WATER QUALITY IMPROVEMENT AND COMMUNITY ENGAGEMENT: Assessing Residential Aerated Treatment Units, Presence of Waterborne Pathogens, and Mosquito Activity

Applicant Information:
Lake Pontchartrain Basin Foundation (LPBF)
2045 Lakeshore Drive, Suite #339, New Orleans, LA 70122
504-836-2235 (504-383-7818 Fax)
Brady Skaggs, Ph.D. brady@saveourlake.org, www.saveourlake.org
DUNS: 625604210

Total Project Cost and EPA Funds Requested: $412,733

Priority Area: Water Quality Improvement

Secondary Priority Areas: Environmental Education/Outreach, & Strengthening Community Resilience.

EPA Strategic Goal: This project advances EPA Objective 2.2, by restoring, protecting, and sustaining the quality of rivers. Beyond the period of this grant agreement, the goal of this project is to have long-term, positive impact on water quality statewide through the provision of new methods of assessing open water conditions and new communications tools for wastewater infrastructure at residential and regional scales.

Project Description: The proposed project is an interdisciplinary approach to improving surface waters in residential communities utilizing aerated treatment units for wastewater management. The project will assess water quality, waterborne pathogens, and vectors of human diseases. The project will correlate these parameters, intervene to improve conditions, and educate area residents and community leaders.

Measurable Outputs: Creation of an assessment tool for municipalities to prioritize assistance to communities utilizing ATUs; Measurements (at 10 representative sites) and correlations between enteric indicators, pathogens, and mosquito activity; Assistance to and education of 800-900 homeowners with malfunctioning wastewater plants; Community education described below; Five (5) percent improvement in fecal coliform and dissolved oxygen in the Ponchitolawa Creek watershed.

Outreach Component: Diverse outreach strategies include Community focus groups; Individual homeowner education (800-900 homeowners); Community presentations; Homeowner/citizen science toolbox Online/social media (blogs, podcasts, etc.); and a Long-Term Strategies report.

Place of Performance: St. Tammany Parish, Louisiana (Lower Tchefuncte Watershed).

HUC Waterbody: Louisiana Coastal Watershed – HUC 08090201 (LDEQ Subsegments LA 040808 and 040802)

Project period: December 1, 2017 to November 30, 2020.

Section 1. Project Summary and Overall Approach

A. DETAILED PROJECT DESCRIPTION:

This project addresses a pervasive water quality problem in rural and developing areas of Louisiana by bringing an interdisciplinary approach to one watershed in southeast Louisiana. The root of the surface water problem is a permissive state policy allowing high density developments of single family residences equipped with Aerated Treatment Units (ATUs) for wastewater management. This situation is compounded by impervious clay soils and annual average rainfall of approximately 60 inches per year statewide.

Home ATU systems have a high failure rate nationally, and LPBF has observed neighborhood failure rates exceeding the national average greater than 60% of the installed systems. Louisiana's topography and geological conditions, when coupled with failed systems, can lead to stagnating, untreated wastewater in drainage ditches in homeowners' front yards. Fecal coliform, as an enteric pathogen indicator, can be measured to quantify the presence of fecal waste material from warm-blooded animals and sewage pollution. However, the scientific literature casts doubt that fecal coliform may be a sufficient indicator to warn of the presence of disease-causing enteric pathogens for all environmental conditions. This public health problem merits examination in Louisiana.

Effluent produced by improperly maintained ATUs discharging into drainage ditches may enhance mosquito production, and therefore, the possibility of increased pathogen transmission by mosquitoes. Frequently malfunctioning residential ATUs and open, poorly-draining ditches together exacerbate the production of West Nile Virus (WNV) vector mosquitoes.

The proposed project area, Ponchitolawa Creek Watershed, drains approximately 9,441 acres in St. Tammany Parish and is a tributary of the Lower Tchefuncte River, which flows into Lake Pontchartrain (Figure 1). As a tributary of the Tchefuncte River, Ponchitolawa Creek is designated a Scenic River by the Louisiana Legislature and the Louisiana Department of Wildlife and Fisheries (LDWF) and is considered an Outstanding Natural Resource Water (ONRW) by the Louisiana Department of Environmental Quality.

On the Lower Tchefuncte River, low levels of dissolved oxygen were identified by the Louisiana Department of Environmental Quality as likely related to numerous individual commercial package plants and individual residential treatment units discharging within the watershed. Stream segments have been on the impaired waters list since 2012, for low dissolved oxygen.

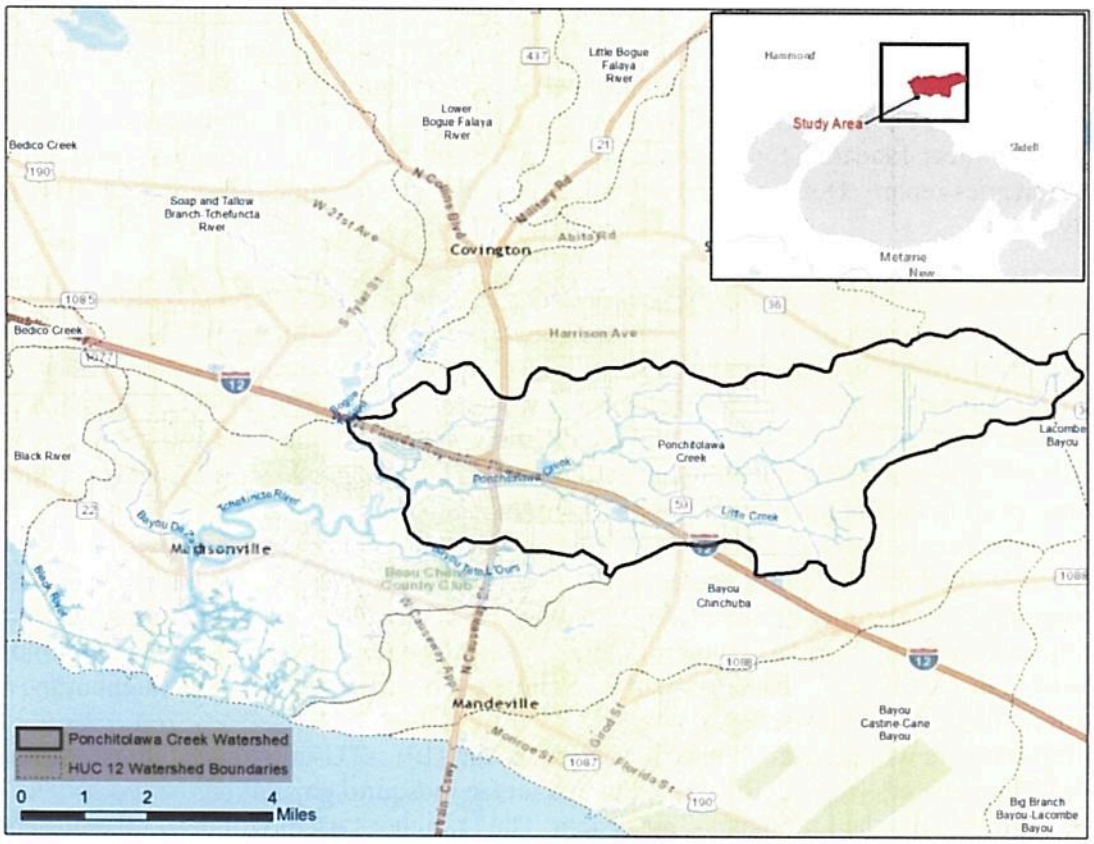
The project watershed is within St. Tammany Parish, which has a watershed management plan developed by the Louisiana Coastal Protection and Restoration Authority that identified:

- 20 subdivisions are not connected to community or centralized wastewater treatment systems;
- More than 1,686 residences that have septic tanks or Aerated Treatment Units (ATUs),
- 800[1] homes (2,400 persons) are in Low to Moderate Income (LMI) neighborhoods.

Past LPBF research has shown a high percentage of home wastewater systems to be malfunctioning in the project area. In addition, recent LDEQ monthly water quality monitoring on Ponchitolawa Creek (2013-2016) has shown sites at I-12 and at Hwy 59 do not meet new *Use and Attainability Analysis* (UAA) Dissolved Oxygen (DO) criteria applicable to this area. Louisiana Department of Environmental Quality ambient water quality monitoring data will serve as the baseline for this project.

[1] 800 high-need LMI residences * 3 persons per home = 2,400 LMI persons impacted

Figure 1. Project Location: Ponchitolawa Creek Watershed



To improve water quality in intervention neighborhoods, this project's multi-disciplinary approach will remediate pollution sources, determine whether disease-causing agents are present in standing water; monitor dissolved oxygen and fecal coliform; quantify changes in mosquito populations; and increase the capacity of homeowners and community leaders to embrace their wastewater responsibilities.

Project partners are the Lake Pontchartrain Basin Foundation, with 17 years' experience in wastewater management and 28 years' experience overall improving water quality in southeast Louisiana; the St. Tammany Parish Mosquito Abatement District, with vector-borne disease ecology and mosquito control; the University of Alabama, with emphasis on wastewater and sanitation engineering challenges; and the Georgia Institute of Technology, with detection methods for waterborne pathogens affecting human health.

Two types of tools will result from this project: 1) a reconnaissance and intervention methodology resulting in at least 5% improvement in fecal coliform and dissolved oxygen in Ponchitolawa Creek, and 2) a communication methodology (and materials) that could be replicated across Louisiana and other states. This project advances EPA's 2014-2018 Strategic Plan by supporting progress toward Goal 2 ("Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems") and Goal 3 ("Objective 3.1: Promote Sustainable and Livable Communities").

Through his project, LPBF proposes to substantially decrease waste material entering ditches in targeted neighborhoods in Ponchitolawa Creek. In reducing these non-point source inputs, LPBF seeks to gain at least a 5% improvement in DO and fecal coliform in Ponchitolawa Creek (much greater improvements are expected), which will ultimately improve low DO conditions in the Lower Tchefuncte. The project will also produce an innovative reconnaissance matrix to target neighborhoods in need of assistance, educational materials, and a long-term strategy plan for municipalities, stakeholders, and homeowners.

B. ACTION PLAN, TIMELINE AND MILESTONES

Project activities are broken into three phases I) A reconnaissance phase to be conducted by LPBF and project partners University of Alabama (UA), Georgia Tech (GT), and St. Tammany Mosquito Abatement District (STPMAD) to create a decision tool/matrix; II) An intervention phase to be conducted by LPBF and STPMAD to inspect home ATU's and assist/educate homeowners while quantifying improvements to ditches; and III) Project education to be conducted by LPBF and a contractor throughout and leading to a Long-term Strategies report. Details are presented below and in the timeline/milestones chart shown in Table 1 (page 7).

Task 1: Assessment of ATU-Utilizing Neighborhoods in Ponchitolawa Creek Watershed

Task 1 corresponds to Phase I of this project, a reconnaissance of ATU-utilizing neighborhoods in the Ponchitolawa Creek Watershed. Neighborhoods will be chosen for monitoring of water quality parameters, enteric pathogen indicators, a suite of pathogens, and mosquito activity. The results of Phase I will be utilized to choose subdivisions for Phase II, the intervention phase, described in Task 2.

a) LPBF will create a QAPP detailing the monitoring methodology and sites associated with this project prior to the commencement of any sampling activities.
b) Project partners will assess the 20 ATU-utilizing neighborhoods in Ponchitolawa Creek by visual inspection of ditches holding standing sewer water. Partners will also evaluate the population demographics, proximity of the ditches to public areas and vulnerable populations, and historic mosquito data from STPMAD (landings, bite data, spray and control data, and epidemiologic data related to disease cases). A matrix will be completed to choose the ten (10) neighborhoods for further ("Phase I") analysis.
c) Project partners will perform "Phase I" analysis of ten (10) ATU-utilizing subdivisions for enteric pathogen indicators (fecal coliform), adult and larvae mosquito populations, and a suite of pathogens through the Luminex x-Tag system. The Luminex system will detect the presence of gastrointestinal and other waterborne diseases, including: *Campylobacter*, *Clostridium difficile* (Toxin A/B), Enterotoxigenic *E. coli* (LT/ST), Siga-like toxin producing *E. coli* (STEC), *Salmonella*, *Shigella*, *Vibrio cholera*, *Giardia*, Norovirus GI/GII, Rotavirus, *E. coli* O157H7, *Yesinia Entercolitica*, Adenovirus 40/41, *Cryptosporidium*, *Entamoeba histolytica*. Each site will be sampled ten (10) times, roughly monthly, over the course of a year. Water Quality measurements will be collected for pH, DO, conductivity, temperature, and turbidity.
d) Concurrent to monitoring described in (c), the presence of immature (larvae and pupae) mosquitoes and fish predators and water quality parameters will be monitored for correlation with condition of individual residence's sewage treatment system via multiple linear regression. This data will be collected for one month at approximately 400 individual residences.
e) Data obtained from activities (c) and (d) will be statistically analyzed and mapped. The results will determine which neighborhood(s) will be targeted for Phase II- Intervention.

Task 2: Phase II- Intervention Program in an ATU-Utilizing Neighborhood

LPBF will conduct home ATU inspections within neighborhood(s) targeted from Task 1.

a) LPBF will coordinate with St. Tammany Parish to notify the targeted neighborhood(s) of the inspection program through the use of door-hangers and neighborhood signage.
b) The inspection process for each home ATU will include:
    - Collection of information on the size and type of each system, condition of the system, street address, and GPS coordinates of the system's location.
    - When a unit is reported as non-functioning, the inspector will note which components have failed and need to be repaired. A copy of the inspection form will be given to the homeowner. A re-inspection will be conducted thirty days later.

- Inspectors will educate the homeowners about the functionality of their system. The homeowners will be given an LPBF-produced brochure with information about the upkeep and maintenance of the system. Information will be given to the homeowner about possible financial assistance for repairs.

This proposal assumes that LPBF will conduct an approximate maximum of 100 ATU per month, for a total of 800-900 within the project.

c) To document water quality improvements through the intervention, LPBF will monitor up to 10 sites monthly within the targeted neighborhood for water quality parameters (e.g.: fecal coliform, DO) and project partners GT and AU will re-conduct sampling detailed in Phase I to assess changes due to the intervention.

d) Concurrent with the inspection program, STPMAD will further assess mosquito populations. In the selected intervention neighborhood(s) and in a similar neighborhood not scheduled for remediation (the control), STPMAD will sample adult mosquitoes prior to and after the intervention to determine the effect of the intervention on the production of adult mosquitoes. Emergence traps, designed to sample mosquitoes that reproduce in an aquatic habitat, and adult mosquito traps, which sample free-flying mosquito populations, will be used in this pre/post intervention study. In addition, water quality parameters and presence/absence of mosquito predators will be measured and noted.

Task 3: Community Education and Outreach

LPBF will develop strategies and materials to deliver outreach and education programming to nearby communities. Key messages will include explaining the project and its goals, the science behind water quality, and the roles of individuals in risk-reduction and water quality. A primary goal of the education and outreach component is to raise awareness of individual responsibilities, and to encourage support of investment in public infrastructure, health, and water quality.

a) Project partners will use their collective expertise and conduct two focus groups at the beginning of the project to gain feedback in understanding the wastewater/mosquito/ditch issues of inhabitants in the watershed. The results of the focus groups will be used to inform education and outreach for the remainder of the project.

b) LPBF estimates it will interact with 200+ diverse residents by preparing and performing twelve (12) educational presentations for schools, neighborhood associations, churches, and business groups within the watershed. The aim will be to catalyze a Citizen Science program for residents to understand more about their immediate environment and steps they can take to monitor, mitigate, and remediate wastewater and mosquito issues.

c) LPBF will create a content strategy for social media, to be placed on all partners' platforms to include: six blog posts; three podcasts; a minimum of twenty unique 140 character (or less) posts for social media platforms (such as Twitter, LinkedIn, Facebook, etc). Connectivity will be facilitated by development of a primary "#hashtag" campaign.

d) LPBF will disseminate information via media connections with news articles, press releases, and interviews for traditional media outlets

e) LPBF will prepare a Home-Wastewater Strategy Report and Educational toolbox through analysis of the Phase I and II data and results and conducting interviews of community leaders.

C. BENEFITS and AUDIENCE:

This project will benefit homeowners and citizens in the Ponchitolowa Watershed by improving water quality in residential neighborhoods served by ATUs- many of which are demographically classified as LMI. The improved water quality will reduce the risk of water-borne pathogens and mosquito-borne disease vectors. Citizens will also benefit from education on wastewater and water quality issues. Finally, municipalities will benefit from the tools and strategies report developed through this project.

D. ROLES, RESPONSIBILITIES, and EXPERIENCE:

The co-leads on the project will be:

- Dr. Brady Skaggs, Water Quality Program Director LPBF- PhD in Environmental Health Sciences from the Tulane University School of Public Health and Tropical Medicine.
- Dr. Kevin Caillouet, Research Entomologist, STPMAD- PhD in Tropical Medicine from the Tulane University School of Public Health and Tropical Medicine.
- Dr. Mark Elliot, Assistant Professor, UA Civil, Construction, and Environmental Engineering- PhD in Environmental Engineering from the University of North Carolina at Chapel Hill.
- Dr. Joe Brown, Assistant Professor, GT Environmental Engineering- PhD Environmental Sciences and Engineering from the University of North Carolina at Chapel Hill Gillings School of Global Public Health.

The experience, roles and responsibilities of each organization are described below:

Lake Pontchartrain Basin Foundation (LPBF)- The mission of LPBF is to restore and preserve the Pontchartrain Basin for the benefit of this and future generations. LPBF will be the principal investigator, responsible for overall execution of the project, oversight of sub-grantees and contractors, and will conduct the water quality monitoring and aerated treatment unit inspection and recommendations for improvement.

St. Tammany Parish Mosquito Abatement District (STPMAD)- STPMAD actively engages in research projects designed to improve technology and methodology, as well as increase understanding of mosquito borne disease epidemiology and mosquito biology. STPMAD will be responsible for assessments of larval and adult mosquito populations as well as predators in Phases I and II.

University of Alabama, Tuscaloosa (UA)- Dr. Mark Elliot places emphasis on understanding the challenges and opportunities of water and sanitation engineering in resource-poor communities. UA will be responsible for sample collection for Luminex analysis in Phases I and II.

Georgia Institute of Technology (GT)- Dr. Joe Brown's research and teaching interests are at the intersection of environmental engineering and public health, including detection methods for pathogens and pathogen indicators in the environment, water treatment technology characterization and innovation, and human health effects of exposure to waterborne pathogens. GT will perform the Luminex analysis in Phases I and II.

E. ENVIRONMENTAL DATA STATEMENT:

LPBF maintains an active and mature quality management system. LPBF acknowledges that a statement demonstrating institutional competency will need to be provided prior to beginning work. A QAPP will be required for this project which will detail the locations, frequency of sampling, parameters, analytical methods, statistical methods, and quality assurance procedures and reporting.

Table 1. Timelines & Milestones Chart

Milestone	2017	2018												2019												2020									
	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
		PHASE I														PHASE II												PHASE III									
QAPP Developed; Approved	X	X	X																																	
Partner Coordination	X			X					X							X					X						X					X		X	
Water Sample FC Collection & Analysis				X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X									
UA Collect Samples, GT Test 15 Pathogens				X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X									
Mosquito & Fish Collection by STPMAD				X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X									
Home WWTP Inspections and Assistance- LPBF																X	X	X	X	X	X	X	X	X	X	X	X									
Focus Groups	X	X	X	X	X	X																														
Community Outreach		Throughout Project - 12 Presentations																																		
Social Media/ Online		Throughout Project- 3 Podcasts, 6 Blogs, 20+ Unique Tweets																																		
Presentations to Stakeholders														X													X							X	X
Long-Term Strategies Report		Research/ Interviews Throughout Project																																X		
Semi-Annual Reports						X						X						X						X						X						
Final Report Developed; Approved																																			X	X

Section 2. Environmental Results—Outcomes, Outputs, Project Performance Measures

A. OUTPUTS AND OUTCOMES

Table 2. Outputs and Outcomes Chart

Anticipated Outputs and Outcomes of LPBF Project in the Ponchitolawa Watershed in SE Louisiana (HUC 08090201)		
Activities (and associated project Phase)	**Outputs**	**Outcomes**
Focus groups of residents convened in the watershed discuss conditions related to wastewater system function and quality of life, open water and mosquitoes (Phase III)	50 persons contacted to engage 10 participants in two groups (20 total)	Insights for project partners aid all phases, including the design of educational materials
Qualitative assessment of 20 neighborhoods' landscape, open water conditions, and history of mosquito data and treatment (Phase I)	Selection of 10 neighborhoods for analysis	Insights for partners about inter-related land and water factors
Analysis of data from standing water sites in residential neighborhoods: fecal coliform bacteria counts; presence of waterborne pathogens; mosquito quantity/activity; and presence of mosquito-eating fish (Phase I)	Water and pathogen data collected 10 times in 10 neighborhoods; mosquito, fish data from broad area	A new tool for gauging the condition of standing water affecting public health and the degree of need for interventions
In intervention neighborhoods, provision of technical assistance to homeowners for aerated treatment units (ATUs): instruction, repairs if possible, and guidance on financial aid for replacing ATU; pre-and post- mosquito population assessment (Phase II)	800-900 residents become aware of their roles managing wastewater; new mosquito trend data	Raw sewage reduced; increased homeowner capacity to manage ATUs in the future; correlation with mosquito activity known
Monthly measurement of dissolved oxygen (DO) downstream of homeowners receiving technical assistance (Phase II)	Water quality data (12 month) at up to 10 sites in targeted subdivisions and receiving streams	Five percent improvement in fecal coliform and Dissolved Oxygen
Implement education/communications campaign using social media (Facebook, Instagram, LinkedIn, Twitter) and print media: press releases, interviews, articles; also interview community leaders (Phase III)	3 podcasts, 20 posts by 4 partners, contractor= 115 communications; interviews	New understanding among the public and environ. professionals in partner states (LA, GA, AL) and beyond
Educational presentations and printed materials for schools, neighborhood associations, churches, business groups in the watershed, as well as the St. Tammany Parish Water Task Force (Phase III)	Learning by 200 residents and civic leaders, as well as project partners	Long term strategies to improve water quality: assess/remediate ATUs and raise profile of community infrastructure need

B. PROJECT PERFORMANCE:
Dr. Brady Skaggs, LPBF Water Quality Program Director, will prepare the QAPP for this project. He will coordinate closely with LPBF's Business/Program & Grants Manager and provide active grant management, including oversight of sub-grantees, partners, contractors and/or vendors.

Section 3. Applicant Capability and Past Performance

LPBF has successfully managed EPA awards totaling more than $10 million since the 1990s from the federal level, Region 6, the Gulf of Mexico Program (GOMP; Region 4), and Urban Waters Federal Partnership. LPBF also successfully administers EPA grants and contracts through the Pontchartrain Restoration Program (PRP, administered by University of New Orleans-UNO) and the LDEQ Non-Point Source 319 Program, respectively. Highlights include:

- LPBF's successfully completed a $127,430 grant from GOMP in 2010 (Grant ID# MX96448606); reported progress quarterly; and included a presentation in the final report.
- LPBF's successfully completed a $303,431 grant from GOMP in 2013 (Grant ID# MX 95458810); provided $193,000 match; quarterly reports; and presentation in the final report.
- GOMP awarded a $300,000.00 grant in 2014 to continue & expand water quality monitoring & reporting for two years (Grant ID# MX 00018514). LPBF is providing a $127,952 match. A supplement of $100,014.00 was awarded in April 2017, which has a balance of $83,395.30 as of June 30, 2017. LPBF has provided semi-annual reports during this project; the next report will cover the period of April-September 2017.

Section 4. Expenditures of Awarded Grant Funds

Following notification from USEPA that a grant award will be made, LPBF will execute sub-grant agreements with the sub-grantees: St. Tammany Parish Mosquito Abatement District (STPMAD), University of Alabama (UA), and Georgia Institute of Technology (GT). LPBF will initiate a competitive bid process for contractual services needed. Chosen contractors will be retained through binding agreements that encompass compliance with relevant regulations, frequency of invoice submittal to LPBF for payment, and accountability for project performance. LPBF's legal counsel will approve the sub-grant agreements and contracts. LPBF's Business/Program & Grants Manager will handle all grant expenditures, agreement documents, and financial transactions with sub-awardees and contractors, in close coordination with the project manager: LPBF's Water Quality Program Director. LPBF personnel will record project hours worked and related expenses using NetChex Payroll Services and established administrative procedures for expense reimbursement.

Section 5. Budget Detail

The total project cost of $412,733 is respectfully requested from the US EPA Gulf of Mexico Program. Full budget details are presented on the following page.

Line Item and Itemized Cost - Three Year Budget	EPA Funding
Personnel	
LPBF Water Quality Director (FTE 40 Hrs/wk, $35.96383/Hr): 10%YR 1, 19%YR 2, 10% YR 3	$ 28,771.07
LPBF Water Quality Field Coordinator (FTE 40 Hrs/wk, $25.0477/Hr): 2.4%YR 1, 9.6%YR 2, 2.4% YR 3	$ 7,514.31
LPBF Water Quality Specialist (FTE 32 Hrs/wk, $18.61679/Hr): 3%YR 1, 60%YR 2, 6% YR 3	$ 21,409.31
LPBF Home System Inspector(PTE20 Hrs/wk,$16.275/Hr): 100%YR2	$ 16,275.00
LPBF GIS Specialist (FTE 32 Hrs/wk, $18.27967/Hr) 150 Hrs: 3% Yr 1, 6% Yr 2)	$ 2,741.95
LPBF Business/Grant Manager (FTE 40 Hrs/wk, $29.20956/Hr): 18%YR 1, 10%YR 2, 10% YR 3)	$ 21,264.56
TOTAL PERSONNEL	$ 97,976.22
Fringe Benefits – 21.45802% of $97,976.22 LPBF Salary & Wages	
FICA, Unemployment, Workers Comp, Health, Life Insurance, Short & Long Term Disability Insurance, 401K Match	$ 18,171.78
TOTAL FRINGE BENEFITS	$ 18,171.78
Travel – In-state travel by vehicle	
Mileage 15,748 LPBF personnel@$0.535/mi; 100 Bridge tolls @ $5	$ 3,234.12
TOTAL TRAVEL	$ 3,234.12
Supplies	
LPBF Field Supplies	$ 11,293.21
TOTAL SUPPLIES	$ 11,293.21
Contractual	
Laboratory Analysis	$ 6,000.00
Reconnaissance of Neighborhoods; Community Education/Outreach	$118,415.00
Wastewater Technician	$ 31,752.00
Graphic Artist	$ 3,750.00
TOTAL CONTRACTUAL	$159,917.00
Other	
LPBF Legal Counsel	$ 5,000.00
St. Tammany Parish Mosquito Abatement District	$ 36,000.00
University of Alabama Phase I and II	$ 18,587.00
Georgia Institute of Technology Phase I and II	$ 37,758.00
Printing (Brochures, Door Hangers)	$ 5,200.43
TOTAL OTHER	$102,545.43
Indirect Charges	
Federal Negotiated Indirect Cost Rate = 20% X Personnel	$ 19,595.24
TOTAL INDIRECT	$ 19,595.24
TOTAL PROJECT COST	**$412,733.00**